



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,758	03/08/2007	Ofer Sneh	020008.0111PTUS	1640
24283	7590	12/30/2008	EXAMINER	
PATTON BOGGS LLP			CHEN, BRET P	
1801 CALIFORNIA STREET				
SUITE 4900			ART UNIT	PAPER NUMBER
DENVER, CO 80202			1792	
			MAIL DATE	DELIVERY MODE
			12/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,758	SNEH, OFER	
	Examiner	Art Unit	
	Bret Chen	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 December 2005 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/30/06</u> . | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

Claims 1-12 are pending in this application, which is a 371 of PCT/US04/20630.

Specification

The disclosure is objected to because of the following informalities listed below:

On p.3 line 28 and elsewhere, the attempt to incorporate subject matter into this application by reference to Serial Number 10/347575 is improper because there is no recitation that the application is commonly assigned. Reliance on a commonly assigned copending application by a different inventor may ordinarily be made for the purpose of completing the disclosure. See *In re Fried* , 329 F.2d 323, 141 USPQ 27, (CCPA 1964), and *General Electric Co. v. Brenner* , 407 F.2d 1258, 159 USPQ 335 (D.C. Cir 1968).

It should be noted that Serial Number 10/347575 has matured into US Patent 6,911,092 and should be reflected in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8, 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8 line 1, the term “substantially controlling” is deemed vague and indefinite as to what substantially means. For example, what is the difference between controlling and substantially controlling? Clarification and appropriate amendments are suggested.

In claim 8 line 1, the preamble reads "controlling the vapor pressure". However, none of the steps ever mention a vapor pressure. In fact, the only method steps are sensing and controlling temperature. Clarification and appropriate amendments are suggested.

In claim 10, the phrase “to approximately determine” is deemed vague and indefinite. What does it mean to approximately determine? Clarification and appropriate amendments are suggested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Marcus et al.

(2002/0187253). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material forming the layer and controlling the deposition of the material

in response to the signal to control the deposition rate and thickness (0013-0016). The sensor is subsequently removed to permit cleaning (0017-0018) which allows a more efficient manufacturing process (0019). The signal from the monitor device is processed and used to control the rate of vapor deposition by adjusting a vapor source heater (0008 and 0044).

The chamber 130C houses a source 134 filled with a supply of organic hole-transporting material 13a, which is heated by heating elements 135 by using a power supply 240 which is controlled by a controller 230 (0040, 0043). A conventional crystal mass-sensor 200 is positioned within the deposition zone and is connected via a lead 210 to an input terminal 216 of a deposition rate monitor 220 which generates a signal to an input terminal 226 of the controller 230 which provides an output signal at an output terminal 232 (0043).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al. (2002/0187253). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material forming the layer and controlling the deposition of the material in response to the signal to control the deposition rate and thickness (0013-0016). The sensor is subsequently removed to permit cleaning (0017-0018) which allows a more efficient manufacturing process (0019). The signal from the monitor device is processed and used to control the rate of vapor deposition by adjusting a vapor source heater (0008 and 0044).

The chamber 130C houses a source 134 filled with a supply of organic hole-transporting material 13a, which is heated by heating elements 135 by using a power supply 240 which is controlled by a controller 230 (0040, 0043). A conventional crystal mass-sensor 200 is positioned within the deposition zone and is connected via a lead 210 to an input terminal 216 of a deposition rate monitor 220 which generates a signal to an input terminal 226 of the controller 230 which provides an output signal at an output terminal 232 (0043). With respect to the sensor being out of line-of-sight with the chemical source, this limitation is taught when the sensor is being cleaned (0031-0032, 0054). However, the reference fails to teach a sensor temperature control unit.

It is noted that Marcus teaches that the sensor 200 has a casing 202 which is water-cooled in order to maintain a stable crystal temperature to ensure accurate monitoring. One skilled in the art would realize the importance of having a temperature control unit for the sensor to ensure

accurate readings. It would have been obvious to utilize a temperature control unit in the process of Marcus with the expectation of obtaining accurate readings.

The same issue applies to method claim 10.

Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al. (2002/0187253) in view of Hillman (6,409,837). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material forming the layer and controlling the deposition of the material in response to the signal to control the deposition rate and thickness as noted above. However, the reference fails to teach a chamber wall temperature control system.

Hillman teaches the conventionality of using a temperature control system to reduce condensation on the walls (col.11 lines 1-25). It would have been obvious to incorporate a chamber wall temperature control system in the apparatus of Marcus with the expectation of removing condensation from the chamber walls.

The same issue applies to method claim 9.

Claims 3-4, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al. (2002/0187253) in view of Siebert (4,858,556). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer

onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material forming the layer and controlling the deposition of the material in response to the signal to control the deposition rate and thickness as noted above. Marcus teaches a pressure gauge 108 which reduces the pressure within the chamber (0037). However, the reference fails to teach a gas control valve and a pressure controller.

Siebert discloses a method and apparatus for forming thin films in which a pressure controller subsystem which contains control valves, pressure sensors, and pressure controllers is used to maintain a specific pressure (col.9 line 64- col.10 line 41). It would have been obvious to incorporate the pressure control system of Siebert in the apparatus of Marcus with the expectation of obtaining precise control over the pressure as taught by Siebert.

Regarding claim 4, the applicant requires an etchant. This feature is taught in Siebert in col.4 lines 26-67.

The same issue applies to method claims 11-12.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al. (2002/0187253) alone or when taken in view of vanSlyke et al. (4,720,432). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material

forming the layer and controlling the deposition of the material in response to the signal to control the deposition rate and thickness as noted above. However, the reference remains silent on the materials.

It is well settled that the intended uses of and the particular material used in a coating apparatus have no significance in determining patentability of apparatus claims.

Regardless, Marcus refers to other patents such as vanSlyke (4,720,432) (0007). VanSlyke teaches that the materials can be aluminum (cols.11-12). It would have been obvious to utilize aluminum in Marcus's apparatus with the expectation of obtaining success because vanSlyke teaches that these are conventional materials.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al. (2002/0187253) alone or when taken in view of Endo et al. (2002/0172768). Marcus discloses a method of making an organic light-emitting device by depositing an evaporated or sublimed organic layer onto a structure which includes depositing at a deposition zone organic material forming a layer of the organic light-emitting device and providing a movable sensor which provides a signal which represents the deposition rate and thickness of the organic material forming the layer and controlling the deposition of the material in response to the signal to control the deposition rate and thickness as noted above. Marcus teaches a pressure gauge 108 which reduces the pressure within the chamber (0037). However, the reference fails to teach ALD.

It is noted that the rejection is over apparatus claims not method claims. The prior art only has to provide a structure that is capable of performing in the manner claimed and not necessarily have ever been intended to be used in this manner. As such, it is the examiner's position that Marcus meets the limitations of the instant claims.

Regardless, Endo teaches that CVD and ALD are similar processes albeit ALD is used to stack monoatomic layers (0008). It would have been obvious to utilize an ALD process in the apparatus of Marcus with the expectation of success.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bret Chen whose telephone number is (571)272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bret Chen/
Primary Examiner, Art Unit 1792
12/20/08